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## A JUNIOR HIGH SCHOOL<sup>1</sup>

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Two years ago the city of Rochester found, among its other school building problems, a serious congestion in one particular section. This section is more thickly populated than is any other section of equal area in the city. It is fairly cosmopolitan. Practically every nationality usually found in our American cities is represented there. There also are represented the unfortunate home conditions only too often found in most large communities, as well as the sound and wholesome home conditions of the great middle class of this commonwealth.

Seven elementary schools were concerned in this particular problem. With but one exception each of these schools consisted of a kindergarten and eight grades. One school had the kindergarten and six grades only. Practically every building was overcrowded, and additional room had to be provided. Plans had already been drawn for additions to two buildings only, when the Board of Education took under consideration the plan of a central building in which might be gathered the pupils of the seventh and eighth grades of the surrounding schools, thereby giving the needed room and leaving these schools easily accessible for the younger pupils of the first six grades. The cost of these two additions alone would exceed one hundred thousand dollars, and it was estimated that the cost of all the additions required would fully equal, if not exceed, the cost of a central building. Six of these seven schools were, roughly speaking, in the circumference of a circle, while the seventh was approximately at the center of that circle. No one of these surrounding schools was scarcely more than one-half mile from the central grammar-school building, thus making the

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maximum distance to the central building not excessive for seventh- and eighth-grade pupils.

There was also another building problem which seemed to favor this central building plan. The East High School, which serves this particular community, was also overcrowded. If, then, the seventh- and eighth-grade pupils could continue their ninth-year or first-year high-school work in this central building, some measure of relief would be afforded to the East High School. These conditions, therefore, pointed to the wisdom of the six-three-three plan of organization for this community.

On the educational side there seemed to be equally strong reasons for adopting this plan. Rochester, like most cities, has essentially the single-teacher plan of organization in the upper grades. Semi-annual promotions prevail; the usual common-school subjects, including drawing, music, and sewing for girls, are taught by the same teacher; while a weekly two-hour manual-training lesson for boys and a corresponding lesson in cooking for girls are taught by special teachers. We were, however, conscious of the fact that in every seventh- and eighth-grade group four type needs were found, no one of which was being adequately met, nor by the very nature of the organization could be adequately met under the conditions that prevailed. We had, first of all, in each grade group certain boys and girls who were going on to high school, there to take the general or college-preparatory courses. For these we felt the urgent need of an opportunity to begin the study of a foreign language, for example, while they were still in the upper grades. In the second place, we had in each grade group certain pupils whose sole ambition was to get the best possible preparation for the business office. Some of these planned to go on into the commercial courses of the high school, while still others through choice or necessity were to withdraw from school upon the completion of the eighth grade. Here again was a type need that was not being met. Then again in each grade group were girls who would be called to work in the home or in the trades as soon as the grammar-grade work was completed. For these much more attention to the household arts seemed desirable. Lastly, there were certain boys, and the number of them in this particular community was large, who

would go to the machine-shop, the print-shop, and other trade lines as soon as elementary-school days were over. For these more work in the industrial arts was important. It was thought, therefore, that if a sufficient number of these pupils could be gathered in one central building, each type need could be met in a way consistent with economy and adequate instruction.

I sometimes wonder whether we as school men are alive to the importance of these needs. On a screen in the Child Welfare Exhibit of the San Diego Exposition I saw these astounding figures. I cannot vouch for their accuracy. I give them exactly as I copied them from that screen:

“Of all the children in the United States between the ages of fourteen and sixteen only one-eighth of them are in school.”

“Every year in the United States, two million children fourteen years of age or under leave school and go to work without knowing where that work is likely to lead.”

“Of all children in the United States who leave school at the age of fourteen or under, less than one-half of them have gone beyond the fifth grade.”

These figures call for most serious reflection on our common type of school organization in the upper grades of the elementary school.

But as regards Rochester and this particular problem, the central grammar school referred to was a comparatively new building, having been first occupied in 1908. It was furthermore the largest grammar school in the city. It had a large assembly hall, a gymnasium, shower-baths and a swimming-pool, a library, and other facilities which seemed to adapt it admirably for junior high-school purposes. It was lacking, however, in adequate shop-room. It was decided, therefore, to add to the building the necessary shops and use this plant for the first junior high school. A new elementary-school building was erected for the kindergarten and first six grades of this grammar school.

The lines of work in this junior high school have already been indicated. They are the academic, the commercial, the household arts, and the industrial arts. At the present time no differentiation in courses is made until the beginning of Grade VII A, or the latter half of Grade VII. This allows one half-year in which to study

the needs, ability, and interests of each pupil. No pupil is assigned to any one of these courses until the parents have been consulted, the entire record of the pupil in the elementary school studied, and the judgment of the present teacher secured. Even in Grade VIIA the differentiation lies in subject-content rather than in subjects. All pupils, for example, continue arithmetic, the application, however, in each course, being adapted to the nature of the work in that course. The boy in the industrial arts course finds practical application of his arithmetic along trade lines, while the pupil in the commercial course finds a special application along business lines. This is illustrative of the general principle of differentiation throughout the work of Grade VIIA, so far as the book subjects are concerned. At this time also the pupils of the household arts and industrial arts courses begin to spend one-third of their time in shop or manual work and the remaining two-thirds in book work.

There is a twofold reason for this conservative differentiation during the first year of work in this junior high school. In the first place, as we felt the need of one half-year in which to canvass all the conditions of any pupils before assigning any differentiated work, so we felt the need of another half-year in which to verify the assignment made. In the second place, the work involved in preparing detailed courses of study, even for the differentiations made, was so great that it would have been very unwise at the beginning to attempt more pronounced differentiations.

At the beginning of the eighth grade or second year of junior high-school work a sharper differentiation takes place. Here the study of foreign language and general mathematics, including arithmetic, concrete geometry, and elementary principles in algebra, is begun by the pupils in the academic course. All the pupils here expect to go on into the general and college-preparatory courses of the upper high school. The foreign language, Latin, for example, and the English grammar and composition are taught by the same teacher, while the literature of the English work is taught by the teacher of history and civics. Elementary science, drawing, music, penmanship, and physical education, together with three hours each week of household arts for girls and shopwork for boys, make up the remaining schedule for the pupils of the academic course.

This shopwork for the boys of the academic course is taken in the regular shops and is given by the regular teacher of shopwork. Thus the manual training is linked with practical problems and is removed from the general and disciplinary field in which it has been held all too long. The same principle applies to the girls of this course in the household arts work.

No specialized work of secondary grade is attempted in the other courses until the ninth year, or regular first-year high-school period, is reached. In the industrial arts course, the following lines of shopwork are given: machine, sheet metal, gas engine, printing, plumbing, cabinet-making, and wood-finishing. From the time the boy begins his work in this course at the beginning of the seventh A grade until he reaches the first-year regular high-school period, his time is spent, not in any one shop, but in all the shops, giving thereby a certain number of weeks to each. If at the end of this time, therefore, he must go directly into the trades, he will have had some insight into the field of each, and some hand training, consistent with his maturity, that will be of service to him. On the other hand, if he is to continue his school work along the trade lines he can with reasonable intelligence select his specialized trade.

Those who are familiar with junior high schools will recognize in this a very conservative differentiation. In some junior high schools, for example, pupils begin specialized commercial subjects such as shorthand and bookkeeping as soon as they enter the school. This means at the close of the sixth grade. In like manner the regular first-year high-school algebra course is begun at the seventh A period and completed at the close of the eighth. Thus one and one-half years are taken for a regular high-school study that would have been completed in one year had the study been deferred until the usual high-school period. This principle prevails throughout.

These two types of differentiation are in strong contrast. The one assumes that all seventh- and eighth-grade pupils are able to do regular high-school work, and it puts the major emphasis upon economy of time. The other assumes that the great body of seventh- and eighth-grade pupils are not ready for regular high-

school work, and it puts the major emphasis, not upon economy of time or the opportunity to take a greater range of subjects, but rather upon a more thorough grounding in the subjects already given. Both are experimental and both are worthy of careful study. So far as Rochester is concerned we are convinced that the differentiations made are meeting the type needs of the seventh- and eighth-grade pupils much more adequately than they have hitherto been met. When under this differentiation we find a group of pupils able to go more rapidly than the great body of pupils, we shall provide for them through special organization. We shall, moreover, not close the door of the upper high school to the pupil of the industrial arts course who at the close of the eighth grade may desire to take the college-preparatory courses of the upper high school. He will not have had the foreign language and the general mathematics of the eighth year, but even so he will be quite as well prepared as are the eighth-grade pupils of our other schools who are not getting the advantages of these differentiated courses.

The school day begins at 8:30 and closes at 4:15, with one and one-fourth hours for noon intermission. This makes the school day six and one-half hours in length. This day is divided into four periods of one hour and thirty minutes each for actual instruction. During this time the entire school work of the pupil for the day is to be done. This gives a school day and a school period of sufficient length to provide for both the preparation and the recitation of lessons. We are assuming that supervised study or intelligent training in the preparation of a lesson is quite as definitely an obligation of the school and is fraught with consequences quite as important to the child as is the recitation. This assumption is based upon two facts. The first is that our pupils show the need of such training; the second is that the vast differences in home conditions result in a most undesirable diversity when outside preparation in the home is depended upon. We have the belief, furthermore, that the growing boy and girl, particularly of pre-adolescent and early adolescent age, have a right to the opportunity of doing the day's work during the day.

The question naturally arises, Is not this day too long for both pupil and teacher? The answer is, We do not know, but we

propose to find out. It all depends upon so many factors, time for the discussion of which is not possible within the brief limits of this paper. The alternating of the subjects which require intensive mental effort with those subjects which do not require this effort, and the few minutes of relaxation even during the former, when windows are thrown open and simple physical exercises or games indulged in, are two important factors. The fact that in charge of this work are experienced grade teachers who know so well how to take advantage of such opportunities will suggest much to the minds of those familiar with the problem.

The selection of teachers for such a school is at the same time the most important and the most difficult problem presented. Assuming that teaching experience is indispensable, the choice lies between the experienced high-school teachers with college training and the experienced grade teachers, usually without such training. The former will be strong in subject knowledge but not so strong in their knowledge of seventh- and eighth-grade boys and girls. Moreover, they will be inclined to regard work in the junior high school as in a less advanced position, even though salary conditions are the same. The latter will be less strong in subject knowledge but stronger in their experienced knowledge of upper grade children. They will furthermore regard work in the junior high school as an advancement and will be conscious of the need of supplementary training. This attitude of mind speaks volumes in favor of the experienced grade teachers.

Once it was decided to select experienced grade teachers, the problem of intelligent selection presented itself. Accordingly, one year before the junior high school was to open, a series of Saturday morning institutes was begun. Classes were organized in Latin, German, English, elementary science, and mathematics. These had to do with applicants for teaching positions in the academic course. Specially trained teachers were available for the commercial, household and industrial arts courses, though Saturday morning institutes were organized and carried on through the year in these courses also. The major emphasis in these latter had to do with courses of study.



To these courses were admitted every experienced grade teacher in the system who met the minimum requirements and who cared to apply. Every applicant for a position as teacher of mathematics in the junior high school must have had, for example, the full mathematics courses of the upper high school. To continue with this subject of mathematics as illustrative of the principle which prevailed in these institutes, three definite things were accomplished. In the first place, an opportunity was given for making in outline a course of study in general mathematics for the eighth-grade or second-year junior high-school pupils of the academic course. It was exceedingly important that this should be done and that it should be done with great care, since this course was to prepare the pupil for the specialized mathematics courses of the upper high school. Furthermore, no textbook had been written to meet this particular condition. Had we confined ourselves to the arithmetic or taken the straight high-school course in algebra the task would have been simple. The institute was in charge of the head of mathematics in the high school to which the pupils of this particular junior high school would later go. He knew the high-school needs and was naturally in a position to indicate the best line of preparation. In the institute class, on the other hand, were the experienced grade teachers with their knowledge of the capacity and limitations of upper-grade pupils. These seemed to be favorable conditions for working out courses of study. The working out of such courses, therefore, was one important thing to be done in these institutes. In the second place, these institutes gave to the grade teachers an opportunity for subject-matter review in algebra and geometry. And lastly the work of the teachers in these institutes constituted one important factor in the ultimate selection of teachers. What has been said of this course in general mathematics was equally true in principle of each of the other courses.

At the close of the year each one of these teachers met our Board of Examiners and received a rating. The factors which entered into this rating were: length of experience, quality of experience, professional training, personality, and Saturday morning institute work. Selection was then made in the order of ratings

given, and each teacher selected was given an initial salary of one hundred dollars in excess of what she would have received had she remained in the grades. Later salary advances will be determined solely on merit and not according to any fixed schedule.

In the light of what has been said, the general organization of the school can be presented with comparative brevity. There are no departmental heads as we know them in the usual high-school organization. At the head of the school stands the principal, a strong, experienced grammar-school man. Associated with him and giving his whole time to the instructional side is a director of junior high-school academic work. He also is an experienced grammar-school principal of exceptional ability in his particular field. His task is to relate and co-ordinate the academic work of the entire school, regardless of the department in which it is given. This makes for unity and it greatly facilitates the transfer of pupils from one course to another when there is a demonstrated need. One man is in general charge of the shops, one woman has the corresponding place in the household arts work, and the director of commercial education for the entire system is taking immediate charge of the commercial department. The high-school departmental heads who carried through the institute work of last year are consulting engineers. Their interest has been pronounced and their contributions important. In fact in the main they are coming to the school for a regular period each day, there to teach a class of eighth-grade pupils, while the regular teacher and often the director of academic work are present also to offer their contributions and assistance. Such is the desire of these high-school men to know at first hand the powers and limitations of the grade pupil. This ought to contribute much to the solution of another commonly recognized problem, that of securing a closer working relation between the upper grades and the high schools.

This is an exceedingly simple type of organization and it will doubtless impress some as being too simple. On the other hand, those who are familiar with the usual departmental work of the upper high school, which only too often becomes compartmental, will find at least a partial defense for the plan outlined above. As later junior high schools are organized in Rochester, this director

of academic work will extend his field as the unifying force over all, and such additional subdirectors will be assigned as experience proves desirable.

In conclusion, I feel the need of reminding all that this school is less than six weeks old. We simply stand at the beginning of a long and difficult task. Doubtless many changes will have to be made, but they can be made, for we are not irrevocably committed to any feature. What has been done thus far simply represents the best that we have known how to do under our own local conditions.